EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Padam Shah on 10/20/09.

The application has been amended as follows:

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment and a third reaction chamber;

wherein the fuel is transported by a pump from the first fuel compartment to the third reaction chamber, where the fuel reacts to form reactants comprising hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported through a conduit to the second reactant compartment, wherein the pump meters a rate of flow of fuel from the first fuel compartment to the third reaction chamber; and

wherein the second reactant compartment is at least partially inside a housing member and comprises a gas permeable, liquid impermeable membrane disposed on a wall of the second reactant compartment, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane and out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and the liquid reactant remains in the second reactant compartment.

2. (Canceled)

3. (Previously Presented) The fuel supply of claim 1, wherein the fuel supply further comprises a valve and the valve selectively allows hydrogen gas to pass through to the fuel cell.

4. (Canceled)

5. (Previously Presented) The fuel supply of claim 1 further comprising an outer casing, wherein the outer casing is substantially impermeable to hydrogen gas.

6. (Original) The fuel supply of claim 5, wherein hydrogen gas is stored within the outer casing.

7. (Previously Presented) The fuel supply of claim 1, wherein the walls of the first fuel compartment and the second reactant compartment are integrally formed.

8. (Previously Presented) The fuel supply of claim 7, wherein the first fuel compartment and the second reactant compartment are separated by a movable wall.

9. (Previously Presented) The fuel supply of claim 8, wherein the movable wall forms a seal with the walls of the second reactant compartment and first fuel compartment.

10. (Previously Presented) The fuel supply of claim 9, wherein the seal comprises a wiper or an o-ring pressing against the walls of the second reactant compartment and first fuel compartment.

11. (Original) The fuel supply of claim 1, wherein the fuel comprises sodium borohydride.

12. (Previously Presented) The fuel supply of claim 11, wherein the liquid reactant comprises sodium borate.

13. (Previously Presented) The fuel supply of claim 11, wherein the third reaction chamber comprises platinum or ruthenium.

14. (Original) The fuel supply of claim 1, wherein the fuel comprises methanol.

15. (Previously Presented) The fuel supply of claim 1, wherein the third reaction chamber comprises a catalyst.

16. (Previously Presented) The fuel supply of claim 1, wherein the first fuel compartment comprises a liner and the fuel is contained in the liner.

17. (Previously Presented) The fuel supply of claim 1, wherein the second reactant compartment comprises a liner and the liquid reactant and hydrogen gas are contained in the liner.

18-73. (Canceled)

74. (Canceled)

75. (Previously Presented) The fuel supply of claim 1, wherein a pressure differential is required for hydrogen gas to pass through the gas permeable, liquid impermeable membrane so that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

76. (Currently Amended) The fuel supply of claim 1, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a filler or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

77. (Canceled)

78. (Previously Presented) The fuel supply of claim 1 further comprising a one-way valve is disposed between the third reaction chamber and the first fuel compartment.

79. (Withdrawn) The fuel supply of claim 1 further comprising a channel comprises a wicking material to transport fuel from the first fuel compartment to the third reaction chamber.

80. (Previously Presented) The fuel supply of claim 1, wherein the first fuel compartment and the second reactant compartment are housed in an outer casing.

81. (Previously Presented) The fuel supply of claim 80, wherein the third reaction chamber is housed in the outer casing.

82. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment, and a third reaction chamber;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment,

wherein the second reactant compartment is at least partially inside a housing member and comprises a gas permeable, liquid impermeable membrane disposed on a wall of the second reactant compartment and fluidly connecting the second reactant compartment to the housing member, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane and out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and wherein a pressure differential is required for hydrogen gas to pass through the gas permeable, liquid impermeable membrane so that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

83. (Currently Amended) The fuel supply of claim 82, wherein the second reactant compartment further comprises ~~a pressure differential device~~ a poppet valve, a porous member, a filler or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough.

84. (Canceled)

85. (Previously Presented) The fuel supply of claim 82, wherein the first fuel compartment and the second reactant compartment are housed in an outer casing.

86. (Withdrawn) The fuel supply of claim 85, wherein the third reaction chamber is housed in the outer casing.

87. (Previously Presented) The fuel supply of claim 85, wherein the outer casing is substantially impermeable to hydrogen gas.

88. (Previously Presented) The fuel supply of claim 87, wherein hydrogen gas is stored within the outer casing.

89. (Previously Presented) The fuel supply of claim 82, wherein as a volume of the first fuel compartment decreases, a volume of the second reactant compartment increases.

90. (Previously Presented) The fuel supply of claim 82 further comprising a one-way valve is disposed between the third reaction chamber and the first fuel compartment.

91. (Previously Presented) The fuel supply of claim 82 further comprising a pump to transport fuel from the first fuel compartment to the third reaction chamber.

92. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment, and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member and;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment,

wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell and wherein the second reactant compartment comprises ~~a pressure differential device~~ a poppet valve, a porous member, a filler or a foam fluidly connecting the second reactant compartment to the housing member~~, said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

93. (Previously Presented) The fuel supply of claim 92, wherein the second reactant compartment comprises a gas permeable, liquid impermeable membrane, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane to the fuel cell.

94. (Canceled)

95. (Previously Presented) The fuel supply of claim 92, wherein the first fuel compartment and the second reactant compartment are housed in an outer casing.

96. (Previously Presented) The fuel supply of claim 95, wherein the third reaction chamber is housed in the outer casing.

97. (Previously Presented) The fuel supply of claim 92, wherein as a volume of the first fuel compartment decreases, a volume of the second reactant compartment increases.

98. (Previously Presented) The fuel supply of claim 92 further comprising a one-way valve is disposed between the third reaction chamber and the first fuel compartment.

99. (Previously Presented) The fuel supply of claim 92 further comprising a pump to transport fuel from the first fuel compartment to the third reaction chamber.

100. (Withdrawn – Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment, and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member;

wherein the fuel is transported through a channel from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment, wherein said channel comprises a wicking material,

wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell through a shut-off valve, wherein when the shut-off valve is closed the back pressure stops the flow of fuel into the third reaction chamber to stop the reaction of fuel.

101. (Withdrawn) The fuel supply of claim 100, wherein the second reactant compartment comprises a gas permeable, liquid impermeable membrane, and the hydrogen gas passes through the gas permeable, liquid impermeable membrane to the fuel cell.

102. (Withdrawn) The fuel supply of claim 101, wherein a pressure differential is required for the hydrogen gas to pass through the gas permeable, liquid impermeable membrane.

103. (Withdrawn – Currently Amended) The fuel supply of claim 100, wherein the second reactant compartment comprises ~~a pressure differential device~~ a poppet valve, a porous member, a filler or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure that a pressure in the second reactant compartment is higher than a pressure in the first fuel compartment.

104. (Canceled)

105. (Withdrawn) The fuel supply of claim 100, wherein the first fuel compartment and the second reactant compartment are housed in an outer casing.

106. (Withdrawn) The fuel supply of claim 105, wherein the third reaction chamber is housed in the outer casing.

107. (Withdrawn) The fuel supply of claim 100, wherein as a volume of the first fuel compartment decreases, a volume of the second reactant compartment increases.

108. (Withdrawn) The fuel supply of claim 100 further comprising a one-way valve is disposed between the third reaction chamber and the first fuel compartment.

109. (Withdrawn) The fuel supply of claim 100 further comprising a pump to transport fuel from the first fuel compartment to the third reaction chamber.

110. (Withdrawn) The fuel supply of claim 82, wherein the first fuel compartment is connected to the third reaction chamber by a channel and the channel comprises a wicking material to transport fuel from the first fuel compartment to the third reaction chamber.

111. (Withdrawn) The fuel supply of claim 92, wherein the first fuel compartment is connected to the third reaction chamber by a channel and the channel comprises a wicking material to transport fuel from the first fuel compartment to the third reaction chamber.

112. (Currently Amended) A fuel supply containing a fuel for use by a fuel cell comprising:

a first fuel compartment containing the fuel, a second reactant compartment, and a third reaction chamber, wherein the second reactant compartment is at least partially inside a housing member and;

wherein the fuel is transported from the first fuel compartment to the third reaction chamber, where the fuel reacts to form hydrogen gas and liquid reactant, and thereafter the hydrogen gas and liquid reactant are transported to the second reactant compartment and wherein the hydrogen gas passes out of the second reactant compartment and is contained in an internal ~~to~~ ~~a~~ spacing located between ~~enclosed by~~ the second reactant compartment ~~component~~ and the housing member and then to the fuel cell, and

wherein a single valve is positioned between the first fuel compartment and the third reaction chamber and wherein the valve is one-directional from the first fuel compartment to the third reaction chamber.

113. (Previously Presented) The fuel supply of claim 112, wherein the fuel is transported by a pump.

114. (Previously Presented) The fuel supply of claim 112, wherein the second reactant compartment comprises a gas permeable, liquid impermeable membrane.

115. (Currently Amended) The fuel supply of claim 112, wherein the second reactant compartment comprises ~~a pressure differential device~~ a poppet valve, a porous member, a filler or a foam, ~~said pressure differential device~~ which requires a pressure differential for hydrogen gas to pass therethrough to ensure that a pressure in the second reactant compartment is higher then a pressure in the first fuel compartment.

116. (Canceled)

Election/Restrictions

Pursuant to the procedures set forth in 37 CFR 1.141, claims 79, 100-103 and 105-111 directed to a species, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 11/8/07 is hereby withdrawn**. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Allowable Subject Matter

Claims 1, 3, 5-17, 75, 76, 78-83, 85-93, 95-103, and 105-115 allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record does not teach of fairly suggest a fuel supply wherein the fuel leaving the second reactant compartment is contained in an internal spacing located between the second reactant compartment and the housing member. The closest prior art reference is to Amendola, however Amendola does not teach the above feature and there is no motivation for a skilled artisan in the prior art to modify Amendola to make the instantly claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Examiner Initiated Interview Summary

In the Examiner initiated interview dated 10/20/09, the Examiner informed applicants’ representative that the amendment to the claims filed 7/17/09 contained new matter. However the Examiner understood the direction applicants wanted to go with said amendment and the Examiner reviewed the instant specification to find subject matter that would convey the same idea but would in fact be supported. The Examiner proposed amending all of the independent claims to recite that the hydrogen gas “is contained in an internal spacing located between the second reactant compartment and the housing member”. The Examiner also proposed removing the recitation of “pressure differential device” from the claims, since it was already shown to applicants that it contained new matter and that instead applicants could recite the actual structural elements supported by the specification; i.e. poppet valve, porous member, filler or foam. The Examiner further stated that as long as the withdrawn claims were amended in the same manor that they would be rejoined. Applicants’ representative agreed to the changes and also agreed to provide a marked-up copy of the claims to the Examiner via fax to include with this Examiner’s Amendment, which have been copied and placed in the Examiner’s Amendments above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Primary Examiner, Art Unit 1795